

Response to Office Action mailed October 10, 2008

Serial No. 10/596,334; filed June 9, 2006

Inventors: Berger et al.

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Listing of the claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Previously Presented) A device for a drilling and/or percussive hammer having a tool receptacle for holding a tool and for transmitting a torque to the tool, the tool receptacle comprising:

- an essentially hollow cylindrical recess that forms the tool holder, having on an end surface an introduction opening through which an insertion end of the tool can be introduced, and having on an opposite end surface an impact opening through which an impact action can be applied to the insertion end,

- at least one web-shaped rotational driver formed on an inner side of the tool holder, and
- additionally, at least one locking element that, in a locked state, is held in a predetermined radial position, and, in an unlocked state, is capable of movement at least radially out of the predetermined radial position,
wherein a stop surface acting in the axial direction of the tool holder is provided on an inner wall of the tool holder, in the area of the impact opening.

2. (Previously Presented) The device as recited in Claim 1, wherein the stop surface has a conical construction.

3. (Previously Presented) The device as recited in Claim 1, wherein

- the tool has:

- the insertion end, which is essentially cylindrical and is formed by a tool shaft,
- at least one rotational driver surface that is formed on the insertion end and opens out at the end of the tool shaft,
- at least one locking recess that is formed in the insertion end and is closed on both sides in the axial direction of the tool shaft; and wherein

- the rotational driver is allocated to the respective rotational driver surface, and is fashioned such that the rotational driver surface can be pushed onto the rotational driver when the tool is introduced.

4. (Previously Presented) The device as recited in Claim 1, wherein an introductory beveling having the shape of a truncated cone is provided on the end surface of the insertion end.

5. (Previously Presented) The device as recited in Claim 1, wherein the rotational driver extends axially on the inside of the tool holder up to the stop surface.

6. (Previously Presented) The device as recited in Claim 1, wherein the insertion end is guided radially over its entire insertion length introduced into the tool holder.

7. (Previously Presented) The device as recited in Claim 1, wherein
- in the drilling and/or percussive hammer there is provided a pneumatic spring hammer mechanism having a drive piston that is capable of being moved back and forth by a drive, and having an impact piston that is capable of being driven by the drive piston,

- the impact piston has a shaft that is capable of being guided in an impact piston guide, and wherein

- the stop surface is situated at a transition from the impact piston guide to the tool holder.

8. (Previously Presented) The device as recited in Claim 7, wherein the impact energy of the impact piston is capable of being transmitted via its shaft directly to the insertion end.

9. (Previously Presented) The device as recited in Claim 7, wherein the impact piston guide has a hollow cylindrical construction and has at least one tangentially peripheral groove on its inside.

10. (Previously Presented) The device as recited in Claim 7, wherein the tolerance of the outer diameter of the shaft of the impact piston and of the inner diameter of the impact piston

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guide are selected such that a gap is formed through which lubricant can flow from an area of the pneumatic spring hammer mechanism into the tool holder.

11. (Previously Presented) The device as recited in Claim 7, wherein the diameter of the shaft of the impact piston, or of an impact element that transmits the impact energy of the impact piston to the insertion end, is smaller than the outer diameter of the insertion end.

12. (Previously Presented) The device as recited in Claim 7, wherein the diameter of the shaft of the impact piston, or of an impact element that transmits the impact energy of the impact piston to the insertion end, is smaller than the inner diameter of the introductory beveling, having the shape of a truncated cone, of the insertion end.

13. (Previously Presented) The device as recited in Claim 7, wherein the diameter of the shaft of the impact piston, or of an impact element that transmits the impact energy of the impact piston to the insertion end, is smaller than the diameter of a fictitious cylinder that is capable of being placed into the interior space in the tool holder between the rotational driver or drivers.

14. (Previously Presented) The device as recited in Claim 1, wherein the stop surface is stationary in relation to the tool holder.

15. (New) A tool holder for holding a tool of a drilling and/or percussive hammer and for transmitting a torque to the tool, the tool holder comprising:

- a device having a an essentially hollow cylindrical recess that holds the tool, the recess having, on a first end surface there of, an introduction opening through which an insertion end of the tool is introduced, and having, on an second end surface thereof that is opposite the first end surface, an impact opening through which an impact action is applied to the insertion end,

- at least one web-shaped rotational driver formed on an inner side of the recess,

- at least one locking element that is located, at least in part, into the recess and that, in a locked state thereof, is held in a predetermined radial position, and, in an unlocked state thereof, is capable of movement at least radially out of the predetermined radial position, and

- a stop surface that is provided on an inner wall of the recess axially adjacent the impact opening and that restricts axial travel of the tool into the recess, wherein, in operation of the hammer, initial contact between a tool end surface and an impact piston occurs adjacent the stop surface.

16. (New) The device as recited in Claim 15, wherein the stop surface interfaces a beveled surface of the tool that tapers from an end surface that is impacted by the impact piston.

17. (New) The device as recited in Claim 16, wherein the beveled surface of the tool is longer than the stop surface such that, when the tool is seated against the stop surface, the beveled surface extends beyond the stop surface and into the impact opening.

18. (New) In combination:

a tool that is configured as a drill or chisel for use with a drilling and/or percussive hammer, the tool including:

- an elongate shaft,
- an insertion end defined at a first end of the shaft,
- a work end defined at a second, opposing, end of the shaft; and

a drilling and/or percussive hammer, including:

- a pneumatic spring hammer mechanism,
- an impact piston cooperating with and being driven into reciprocating motion by the pneumatic spring hammer mechanism, and
- a tool holder aligned with the impact piston and positioning the tool for receipt of impact actions delivered by the impact piston, the tool holder including:

- a device having an essentially hollow cylindrical recess that holds the tool, the recess having, on a first end surface thereof, an introduction opening through which the insertion end of the tool is introduced, and having, on an second end surface thereof that is opposite the first end surface, an impact opening through which the impact actions are applied to the insertion end of the tool,

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- at least at least one web-shaped rotational driver formed on an inner side of the recess,
- at least one locking element that extends, at least in part, into the recess and that, in a locked state thereof, is held in a predetermined radial position, and, in an unlocked state thereof, is capable of movement at least radially out of the predetermined radial position, and
- a stop surface that is provided on an inner wall of the recess axially adjacent the impact opening and that restricts axial travel of the tool into the recess,

wherein, in operation of the hammer, initial contact between a tool end surface and the impact piston occurs adjacent the stop surface.

19. (New) The combination as recited in Claim 18, wherein the at least one web-shaped rotational driver extends axially to the stop surface such that, during use of the hammer, the stop surface supports pressure forces applied by the operator to the drilling and/or percussive hammer.